

INTERNATIONAL EFFORTS TO REDUCE IMPACTS OF SOUND ON MARINE MAMMALS

International Management Mechanisms

While individual nations may develop policies to address sound in the marine environment (particularly in coastal and continental shelf waters), neither marine mammals nor sound sources respect boundaries imposed by legal systems that must be used to effectively implement and enforce those requirements. Few marine mammal species have distributions restricted to the waters of the Exclusive Economic Zone of any one country. While the problem of potentially harmful anthropogenic sound in the ocean is international in scope, most of the management mechanisms are domestic or regional. There has been considerable debate and discussion about whether international fora should be identified or created to provide an international system to address management and mitigation of sound in the marine environment in a globally meaningful and effective manner.

I. Summary of Marine Mammal Commission International Workshop: Policy on Sound and Marine Mammals

An international policy workshop on sound and marine mammals was held 28-30 September 2004 in London, England, sponsored jointly by the U.S. Marine Mammal Commission and the U.K. Joint Nature Conservation Committee (JNCC). Over 100 participants from more than 20 countries attended. Because the 2003 Congressional mandate described above directed that the Commission's efforts to address acoustic impacts on marine mammals be international in scope, the Commission decided to attempt to investigate directly how the issue is (or is not) being addressed outside the United States. It hoped, in the process, to build relationships to improve international communication and cooperation. The 28 Advisory Committee members supported the idea of a Commission-sponsored international policy workshop and provided valuable advice in the early planning stages. The Commission and JNCC agreed in March 2004 to collaborate in drafting the agenda, identifying participants, convening the workshop, and producing a workshop report.

The workshop's goals were to (1) determine the range of existing efforts to manage, mitigate, and prevent impacts of human-generated sound on marine mammals outside the United States; (2) determine the extent to which legal and regulatory frameworks, other than those provided by U.S. domestic laws and regulations, address acoustic impacts on marine mammals; (3) identify cross-boundary or multilateral issues regarding the management and mitigation of acoustic impacts on marine mammals; and (4) identify innovative management strategies and policies that might be incorporated within national and international frameworks. Given that the intent was not to develop recommendations or reach consensus on issues, the focus was on establishing dialogue across international boundaries and on widening the perspectives and strengthening the knowledge base of workshop participants. The workshop conveners and participants made an effort to share information and improve understanding of the range of views on the various topics discussed.

[insert brief text describing key discussions at the workshop—see workshop report when available]

II. Examples of Domestic Practices in Other Countries

[JNCC Guidelines?]

[Australian Guidelines?]

[Brazilian Guidelines?]

[Spanish Guidelines for Canary Islands?]

[Other??]

III. Examples of International and Regional Conventions

Agreement on the Conservation of Cetaceans of the Black and Mediterranean Sea and Atlantic Contiguous Area (ACCOBAMS)

The ACCOBAMS Scientific Committee has identified various sources of anthropogenic sound as causes for concern and action. In 2003, the Committee issued its Recommendation 2.7 on Man Made Noise.¹ This document recommends, among other things, that, pending further research and guidelines on the deployment of sonar, “ACCOBAMS parties consult with any profession using such acoustic devices, including military activities, and urge that extreme caution be exercised in their use in the ACCOBAMS area, with the ideal being no further use until satisfactory guidelines are developed.”²

At the Second Meeting of the Parties to ACCOBAMS in November 2004, the Parties passed Resolution 2.16 on the assessment and impact assessment of man-made noise. This resolution, among other things (1) urged that, within the ACCOBAMS area, the use of anthropogenic sound be avoided if appropriate in marine mammal habitat, and that any use of anthropogenic sound in or near areas believed to be the habitat of Cuvier’s beaked whales be undertaken only with special caution and transparency; (2) urged the Parties to facilitate national and international research on various aspects of the issue; (3) urged the Parties to provide the ACCOBAMS Scientific Committee with public, national, or international protocols or guidelines for sonar use developed by military authorities in the context of addressing threats to cetaceans, along with the information upon which they are based; (4) urged the Parties to consult with parties conducting activities known to produce underwater sound with the potential to cause adverse effects on cetaceans, recommending that extreme caution be exercised in the ACCOBAMS area; and (5) encouraged the development of alternative technologies and requirements for the use of best available control technologies

1 and other mitigation measures in order to reduce the impacts of anthropogenic sound in the
2 ACCOBAMS area.

3
4 ***Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas***
5 ***(ASCOBANS)***

6 ASCOBANS has begun to address undersea noise pollution in its *Conservation and Management*
7 *Plan*, which is annexed to the Agreement. This Annex sets forth mandatory conservation
8 measures to be applied to cetaceans, including "the prevention of . . . significant disturbance,
9 especially of an acoustic nature."³ At the Forth Meeting of the Parties to ASCOBANS in
10 August 2003 the Parties passed Resolution Number 5 on Effects of Noise and of Vessels.
11 Among other things, this resolution requests that Parties take a series of steps to reduce the
12 impact of noise on cetaceans from seismic surveys, military activities, shipping vessels,
13 acoustic harassment devices, and other acoustic disturbances.⁴ The resolution requested that
14 the Parties and Range States introduce guidelines on measures and procedures for seismic
15 surveys to prevent significant disturbance of cetaceans. Parties and Range States were also
16 invited to conduct research and report on approaches to reduce or eliminate adverse effects
17 of military activities on small cetaceans before the ASCOBANS Advisory Committee
18 meeting in 2005.

19
20 ***Convention on Biological Diversity (CBD)***

21 The Preamble of the CBD notes that: "Where there is a threat of significant reduction or
22 loss of biological diversity, lack of full scientific certainty should not be used as a reason for
23 postponing measures to avoid or minimize such a threat." Moreover, parties whose
24 activities may pose grave or imminent danger or damage to biological diversity are required
25 to notify potentially affected states, and must take action to prevent or minimize such
26 damage (Art. 14(1)(d)).⁵

27
28 ***Convention for the Protection of the Marine Environment of the North-East Atlantic***
29 ***(OSPAR)***

30 The OSPAR Convention is aimed at protecting the marine environment from human-made
31 pollution, including energy, and several OSPAR documents have approached the problem of
32 underwater sound as a form of pollution having adverse effects on the marine environment.
33 "Noise disturbance" is listed among the potentially dangerous effects of human activities
34 that may need to be regulated within or in the vicinity of marine protected areas (MPAs) to
35 achieve the objectives of MPA designation, and, further, is recognized by the OSPAR
36 Commission as among the potentially harmful effects of human activities posing threats to
37 several species of whale.⁶ Further, at its most recent a meeting in 2004 the OSPAR
38 Commission recognized the need to further assess pollution from undersea noise "raised by
39 offshore activities" and directed its Secretariat to prepare a report to its Offshore Industry
40 Committee on this topic.⁷

41
42 ***European Community Habitats Directive***

43 The European Community (E.C., sometimes referred to as the European Union or E.U.)
44 can adopt legislation in the form of legally-binding Directives, which are implemented
45 through national laws, regulations, or administrative provisions that refer to the Directive in

1 question. Member States often implement Directives by simply transposing the language of
2 a Directive into national law.^a The E.C. Habitats Directive was adopted in 1992, and its
3 provisions had to be implemented through existing Member States' national legislation by
4 1994.⁸ Its provisions also apply to those Member States who subsequently joined the EU.

5
6 The Habitats Directive is a nature conservation instrument, with provisions for both habitat-
7 and species-based protection.^b The habitat protection provisions focus on the establishment
8 and protection of a E.C.-wide network of sites known as *Natura 2000*, comprising Special
9 Areas of Conservation (SACs).^c The selection of SACs for *Natura 2000* is a task for the E.C.
10 Member States in conjunction with the European Commission. SACs are selected for the
11 habitats and species listed in Annexes I & II of the Directive. Marine mammals species
12 listed in Annex II include the gray seal, monk seal, harbor seal, bottlenose dolphin, and
13 harbor porpoise. The protection regime for SACs is rigorous, though it includes some scope
14 for activities that "must ... be carried out for imperative reasons of overriding public
15 interest."⁹

16
17 The species protection provisions of the Directive require the E.C. Member States to "take
18 the requisite measures to establish a system of strict protection for the animal species listed
19 in Annex IV(a) in their natural range..."¹⁰ Annex IV(a) includes all species of cetaceans, as
20 well as some species of otters and pinnipeds. The system of strict protection must prohibit,
21 among other things, "all forms of deliberate capture or killing of... these species in the
22 wild..." and "deliberate disturbance of these species, particularly during the period of
23 breeding, rearing, hibernation and migration..."^{d11}

24
25 Article 12 of the Directive further dictates that "Member States shall establish a system to
26 monitor the incidental capture and killing of the animal species listed in Annex IV(a). In the
27 light of the information gathered, Member States shall take further research or conservation
28 measures as required to ensure that incidental capture and killing does not have a significant
29 negative impact on the species concerned."¹²

30
31 In October 2004 the European Parliament passed a resolution that, among other things, (1)
32 called for the European Union and its Member States to adopt a moratorium on the

^a If a Member State fails to properly implement any provision of a Directive by the prescribed deadline, that provision may still be effective through the European Court of Justice's doctrine of "direct effect." This doctrine allows an individual to invoke a non-transposed provision against the Member State if certain conditions are met (*e.g.*, the provision in question must be unconditional and sufficiently precise). The European Commission must ensure that proper implementation is achieved, and has the power to start infringement proceedings in the European Court of Justice in cases (1) when transposition did not occur within strict time limits, (2) where transposition to national legislation did not accurately reflect the provisions of the Directive, or (3) where Member States are failing in their obligations under a Directive. Where there is any conflict with national legislation, the E.U. Directive takes precedence.

^b The E.C. Habitats Directive has both a terrestrial and marine application. Its marine application includes the internal waters and territorial sea of the coastal E.C. Member States; many such States have now also accepted that the Directive applies to their exclusive economic zones (or equivalent).

^c The *Natura 2000* network also includes Special Protection Areas under the EC Birds Directive.

^d Derogations from these duties are permitted in limited circumstances.

1 deployment of high-intensity active naval sonars until a global assessment of their cumulative
2 environmental impact has been completed; (2) called on the Member States to immediately
3 restrict the use of high-intensity active naval sonars in waters falling under their jurisdiction;
4 (3) called on the Member States to monitor and investigate (in a transparent manner) mass
5 strandings of marine mammals in E.U. waters that have been associated with intense
6 anthropogenic sound and to communicate the findings to the European Commission; (4)
7 called for the European Commission and the Member States to set up a multinational task
8 force to develop international agreements regulating sound levels in the world's oceans, with
9 the goal of limiting the adverse impact of anthropogenic sound on marine mammals and
10 fish. While European Parliament resolutions are non-binding, they serve to raise awareness
11 in the European Community and bring issues to the European Commission agenda.

12
13 ***International Convention on the Prevention of Pollution from Ships (MARPOL)***

14 Pollution from energy sources (and therefore sound) is not included within MARPOL's
15 scope, which defines pollution to include only harmful substances. Limitations on undersea
16 sound from shipping therefore cannot be managed by IMO through MARPOL unless a
17 modification to the convention is adopted. To use MARPOL to regulate anthropogenic
18 sound, it would be necessary to amend Article 1(1) to include sound.

19
20 ***International Convention on the Regulation of Whaling (ICRW)***

21 Much controversy surrounds the competence of the International Whaling Commission
22 (IWC) to enact measures for the conservation of any species outside the context of
23 commercial whaling. However, the IWC has held two fora on the issue of ocean noise, and
24 the need for its regulation and further study. For instance, Resolution 1998-6 of the
25 International Whaling Commission (IWC) identified "anthropogenic noise" as a priority
26 topic for investigation within its Scientific Committee, and the IWC Scientific Committee, in
27 its report to the 56th meeting of the IWC (July 2004),¹³ concluded that there is now
28 compelling evidence implicating military sonar as a direct impact on whales, in particular on
29 beaked whales. The Committee also agreed that evidence of increased sounds from other
30 sources, including ships and seismic activities, was cause for serious concern.

31
32 At the 2003 meeting of the Scientific Committee of the International Whaling Commission,
33 the Standing Working Group on Environmental Concerns (SWG) noted the importance of
34 the emergent threat of anthropogenic sound to cetaceans and other elements of marine
35 ecosystems. In response, the SWG organized a mini-symposium on acoustics, held during
36 SWG sessions prior to the International Whaling Commission meeting in July 2004. The
37 conclusions and recommendations from the mini-symposium were presented to the
38 Scientific Committee, which in turn drafted a report with recommendations for the
39 International Whaling Commission (IWC). Both the Scientific Committee and the IWC
40 agreed that there is compelling evidence implicating military sonar as having a direct impact
41 on beaked whales, in particular. They further agreed that there is evidence of increased
42 sounds from other sources, including ships and seismic activities, which is cause for serious
43 concern. On the general topic of anthropogenic sound impacts on cetaceans, the IWC
44 adopted the Scientific Committee's recommendations for (1) the integration and
45 coordination of international research projects to study and describe acoustic ecologies; (2)

the inclusion of anthropogenic noise assessments and noise exposure standards within the framework of national and international ocean conservation plans (*e.g.*; consideration during designation of critical habitats, marine protected areas and ocean zoning); and (3) support for multinational programmes to monitor ocean noise and the development of underwater noise budgets at various scales. The IWC also endorsed commendations relating to mitigation and monitoring protocols (among other things), commending them to member governments, and requesting that they be transmitted to representatives of geophysical exploration and petroleum industries, and various committees and agencies, including the U.S. Marine Mammal Commission and the U.S. National Marine Fisheries Service.

International Convention for the Safety of Life at Sea (SOLAS)

This convention and some other regional and international agreements do not necessarily fall into one of the above categories, but may be relevant to addressing anthropogenic sound in the oceans, and should therefore could be explored as potential models or instruments for managing and mitigating anthropogenic sound in the world's oceans, especially for commercial shipping.

United Nations Convention on the Law of the Sea (UNCLOS)

UNCLOS establishes a globally recognized regime dealing with all matters relating to the uses of the oceans and seas and their resources. UNCLOS assigns the fundamental obligation and responsibility for protecting and preserving the marine environment to States, and requires them to adopt and enforce national laws and international standards to prevent, reduce and control ocean pollution from any source. The convention defines "pollution" to include harmful energy, and thus could be interpreted to encompass sound pollution within its mandates.

IV. Examples of Multilateral Bodies

Convention on Biological Diversity (CBD) Secretariat

Convention on Migratory Species (CMS) Secretariat

International Association of Geophysical Contractors (IAGC)

International Maritime Organization (IMO)

International Whaling Commission (IWC)

North Atlantic Treaty Organization (NATO)

United Nations Environment Programme (UNEP)

United Nations Educational, Scientific and Cultural Organization Intergovernmental Oceanographic Commission (UNESCO- IOC)

V. Fostering International Dialogue

International Collaboration

There is considerable research into the effects of underwater sound on marine fauna and ecology ongoing outside US jurisdiction. Various countries are currently developing management responses to sound-related issues. It is also possible that the underwater sounds produced by the activities of other nations may have an effect on species, habitats and ecosystems of interest to the US. These considerations speak to the need for international collaboration including information exchange and skill-sharing on marine acoustic issues. New data will emerge in this field with potential significance to mitigation in the next few years both from within the US sphere and elsewhere.

In order to ensure that the potential problems relating to underwater sound are being addressed in the best-informed manner, some form of ongoing international dialogue should be sought, drawing on the expertise of all those involved in research and/or management in this topic area. No such formal mechanism currently exists but consideration should be given to establishing a regular international forum perhaps by facilitating the consideration of this matter by an existing international meeting cycle with an appropriate focus.

The Marine Mammal Commission review of marine acoustic concerns is the only large-scale ongoing stakeholder dialogue on this theme worldwide and its discussions, conclusions and other outputs are of interest to the concerned global community. Therefore, part of the facilitation of an ongoing international dialogue should include a commitment to, and a formal strategy for, dissemination of outputs to non-US bodies for their information and to facilitate work on this theme.

VI. Recommendations Regarding International Efforts to Reduce Impacts of Sound on Marine Mammals

- [international mechanism for collection and sharing of scientific information among governments]
- [international mechanism for collection and sharing of mitigation technologies and information on mitigation tools and effectiveness]
- [development of guidelines for sound producers at an international level]

1 **REFERENCES**

2
3 ACCOBAMS. 2003. Report of the Second Meeting of the Scientific Committee to
4 ACCOBAMS, Istanbul, 20-23 November 2003, Annex 34g, Recommendation 2.7 (2003).

5
6 Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and
7 of wild fauna and flora (E.C. Habitats Directive). 1992.

8
9 OSPAR Commission, Draft Summary Record, OSPAR 2004 (OSPAR 04/23/1-E) Annex
10 20, 2004/05 Product 17.

11
¹ Report of the Second Meeting of the Scientific Committee to ACCOBAMS, Istanbul, 20-23 November
2003, Annex 34g, Recommendation 2.7 (2003).

² *Id.*

³ ASCOBANS, Annex, para. 1(d).

⁴ Fourth Meeting of Parties to ASCOBANS, Res. 5 *Effects of Noise and of Vessels* (2003).

⁵ CBD, (Art. 14(1)(d))

⁶ See OSPAR Commission, 2003; OSPAR Commission, Case Reports for the Initial List of Threatened
and/or Declining Species and Habitats in the OSPAR Maritime Area at 91 (YEAR?).

⁷ OSPAR Commission, Draft Summary Record, OSPAR 2004 (OSPAR 04/23/1-E) Annex 20, 2004/05
Product 17. (YEAR?)

⁸ E.C. Habitats Directive

⁹ E.C. Habitats Directive

¹⁰ E.C. Habitats Directive

¹¹ E.C. Habitats Directive Article 12 §1

¹² E.C. Habitats Directive Article 12 §4

¹³ IWC Scientific Committee, 2004